What is claimed is:

1.A transmission power control method for a CDMA communication system which performs communication between a basestation and a plurality of mobile stations; the transmission power control method comprising the steps of:

transmitting an uplink power from the plurality of the mobile stations to the basestation;

receiving and measuring the uplink power transmitted from each of the plurality of mobile stations with a received SIR and a SIR requirement threshold at the basestation;

taking an iterative algorithm to get a convergent transmitted power.

2. A transmission power control method according to claim 1, wherein the iterative algorithm expresses that a (n+1)th transmitted power of the mobile station i equals a convergence factor multiplied with a (n)th transmitted power of the mobile station i,

wherein the convergence factor at the nth iteration equals a power convergence factor $c^{(n)}$ at the nth iteration over a determined factor ($\rho^{(n)}$) at the nth iteration.

3. A transmission power control method according to claim 1, wherein the determined factor ($\rho^{(n)}$) equals the received SIR of mobile station i at the nth iteration ($\gamma_i^{(n)}$) over the SIR requirement threshold at the basestation for mobile station i (β_i).

4. A transmission power control method according to claim 3, wherein the iterative method at the nth iteration further chooses the power convergence factor ($c^{(n)}$) at the nth iteration similar to the determined factor ($\rho^{(n)}$) at the nth iteration, i.e. $c^{(n)} \approx \rho_i^{(n)} = (\frac{\gamma_i^{(n)}}{\beta_i})$.

5. A transmission power control method according to claim 1, wherein the power convergence factor is determined from the local information of the received SIR and the SIR requirement threshold in a target cell.

6. A transmission power control method according to claim 5, wherein the power

convergence factor is the maximum value of $(\frac{\gamma_j^{(n)}}{\beta_j})$ of all the mobile stations in the target cell.

7. A transmission power control method according to claim 5, wherein the power convergence factor is the minimum value of $(\frac{\gamma_j^{(n)}}{\beta_j})$ of all the mobile stations in the target cell.

8. A transmission power control method according to claim 5, wherein the power convergence factor is the average value of $(\frac{\gamma_j^{(n)}}{\beta_j})$ of all the mobile stations in the target cell.

9. A transmission power control method according to claim 1, wherein the algorithm is simulated under conditions of:

assuming that there are M mobile stations uniformly distributed in each cell with different SIR requirement thresholds; and

applying the large-scale fading propagation model in the uplink.

10. A transmission power control method according to claim 9, wherein the large-scale fading propagation model is assumed to be fixed for any particular mobile during the calculating cycle but it is variant for each mobile use.

11. A transmission power control method according to claim 1, wherein the CDMA communication system is a direct-sequence CDMA communication system.

12.A system to achieving a transmission power control for a CDMA communication system which performs communication between a basestation and a plurality of mobile stations; the system comprising:

means for transmitting an uplink power from the plurality of the mobile stations to the basestation;

means for receiving and measuring the uplink power transmitted from each of the plurality of mobile stations with a received SIR and a SIR requirement threshold at the basestation;

means for taking an iterative algorithm to get a convergent transmitted power.

13. A system according to claim 12, wherein the iterative algorithm means that a (n+1) transmitted power of the mobile station i equals a convergence factor multiplied with a (n) transmitted power of the mobile station i,

wherein the convergence factor at the nth iteration equals a power convergence factor ($c^{(n)}$) at the nth iteration over a determined factor ($\rho^{(n)}$) at the nth iteration.

14. A system according to claim 13, wherein the determined factor ($\rho^{(n)}$) equals the received SIR of mobile station i at the nth iteration ($\gamma_i^{(n)}$) over the SIR requirement threshold at the basestation for mobile station i (β_i).

15. A system according to claim 14, wherein the iterative method at the nth iteration further chooses the power convergence factor ($c^{(n)}$) at the nth iteration similar to the determined factor ($\rho^{(n)}$) at the nth iteration, i.e. $c^{(n)} \approx \rho_i^{(n)} = (\frac{\gamma_i^{(n)}}{\beta_i})$.

16. A system according to claim 13, wherein the power convergence factor is determined from a local information of the received SIR and the SIR requirement threshold in a target cell.

17. A system according to claim 16, wherein the power convergence factor is the maximum value of $(\frac{\gamma_j^{(n)}}{\beta_j})$ of all the mobile stations in the target cell.

18. A system according to claim 16, wherein the power convergence factor is the minimum value of $(\frac{\gamma_j^{(n)}}{\beta_j})$ of all the mobile stations in the target cell.

19. A system according to claim 16, wherein the power convergence factor is the average value of$(\frac{\gamma_j^{(n)}}{\beta_j})$ of all the mobile stations in the target cell.

20. A system according to claim 13, wherein the algorithm is simulated under conditions of:

assuming that there are M mobile stations uniformly distributed in each cell with different SIR requirement thresholds; and

applying the large-scale fading propagation model in the uplink.

21. A system according to claim 20, wherein the large-scale fading propagation model is assumed to be fixed for any particular mobile during the calculating cycle but it is variant for each mobile use.

22. A system according to claim 13, wherein the CDMA communication system is a direct-sequence CDMA communication system.

23. A basestation for communicating with a plurality of mobile terminals in a CDMA communication system, comprising:

means for receiving and measuring a uplink power transmitted from each of the plurality of mobile stations with a received SIR and a SIR requirement thresholds at the basestation;

means for taking an iterative algorithm to get a convergent transmitted power.

24. A basestation according to claim 23, wherein the iterative algorithm means that a (n+1) transmitted power of the mobile station i equals a convergence factor multiplied with a (n) transmitted power of the mobile station i,

wherein the convergence factor at the nth iteration equals a power convergence factor $c^{(n)}$ at the nth iteration over a determined factor $\rho^{(n)}$ at the nth iteration..

25. A basestation according to claim 24, wherein the determined factor $\rho^{(n)}$ equals the received SIR of mobile station i at the nth iteration $\gamma_i^{(n)}$ over the SIR requirement threshold at the basestation for mobile station i β_i.

26. A basestation according to claim 25, wherein the iterative method at the nth iteration further chooses the power convergence factor $c^{(n)}$ at the nth iteration similar to the determined factor $\rho^{(n)}$ at the nth iteration, i.e. $c^{(n)} \approx \rho_i^{(n)} = (\frac{\gamma_i^{(n)}}{\beta_i})$.

27. A basestation according to claim 24, wherein the power convergence factor is determined from a local information of the received SIR and the SIR requirement

threshold in a target cell.

28. A basestation according to claim 27, wherein the power convergence factor is the maximum value of $(\frac{\gamma_j^{(n)}}{\beta_j})$ of all the mobile stations in the target cell.

29. A basestation according to claim 27, wherein the power convergence factor is the minimum value of $(\frac{\gamma_j^{(n)}}{\beta_j})$ of all the mobile stations in the target cell.

30. A system according to claim 27, wherein the power convergence factor is the average value of $(\frac{\gamma_j^{(n)}}{\beta_j})$ of all the mobile stations in the target cell.

31. A basestation according to claim 23, wherein the algorithm is simulated under conditions of:

assuming that there are M mobile stations uniformly distributed in each cell with different SIR requirement thresholds;

applying the large-scale fading propagation model in the uplink.

32.A basestation according to claim 31, wherein the large-scale fading propagation model is assumed to be fixed for any particular mobile during the calculating cycle but it is variant for each mobile use.

33.A basestation according to claim 23, wherein the CDMA communication system is a direct-sequence CDMA communication system.